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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
JIANG, SHAOJIA A	

ART UNIT	PAPER NUMBER
1617	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/926,424	MAJEED ET AL.	
	Examiner	Art Unit	
	Shaojia A. Jiang	1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *148-151,175 and 177-191* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *148-151, 175 and 177-191* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to Applicant's response (remarks/Arguments) filed on February 18, 2005 wherein no amendment is filed, i.e., no claims are amended, cancelled, or newly submitted.

Currently, claims 148-151, 175 and 177-191 are pending in this application and under examination on the merits.

It is merely noted for the record that the recitation "at least" in claims 148-151 is seen to render the claim(s) unclear and indefinite as to how much each boswellic acid to be administered since the recitation "at least" fails to define the upper limit of the effective amount of each boswellic acid.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 148-151, 175 and 177-191 are rejected under 35 U.S.C. 112, first paragraph, for scope of enablement because the specification, while being enabling the instant particular combination for treating a specific and particular autoimmune disease, does not reasonably provide enablement for treating any autoimmune diseases,

encompassed by the claims by administering the boswellic acids compositions, for the same reasons of record in the previous Office Action November 19, 2004.

The instant specification fails to provide information that would allow the skilled artisan to fully practice the instant invention without ***undue experimentation***. Attention is directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors:

(1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary.

The nature of the invention: The instant invention pertains to a method of treating any autoimmune diseases including those recited in claim 151 herein.

The relative skill of those in the art: The relative skill of those in the art is high.

The breadth of the claims: The instant claims are deemed very broad since these claims reads on treating any autoimmune diseases including those recited in claim 151 herein.

Regarding the *Wands* factor (4) the predictability or unpredictability of the art:

It is noted that the pharmaceutical art is unpredictable, requiring each embodiment to be individually assessed for physiological activity. *In re Fisher*, 427 F.2d 833, 166 USPQ 18 (CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. In the instant

case, the instant claimed invention is highly unpredictable since one skilled in the art would recognize that the recitation encompasses any autoimmune diseases, which are known to be involved various, many possible, different, separate and independent, even unknown pathology, etiologies, or symptoms. The method for the treatment of an autoimmune disease is not one but at least two distinct, separate, and independent methods. For example, as defined by Ninham et at. (WO 85/05031, PTO-892), the immune response in a human or animal subject can be suppression or enhancement (see page 1-2). Autoimmune diseases can be treated by artificial suppression (immunosuppression) or enhancement (immunopotentation), wherein these two treatments are involved in distinct and separate agents, processes and mechanisms, and most importantly which are in both opposite directions.

The skilled artisan would view that, treating any autoimmune diseases, encompassing both suppression (immunosuppression) and enhancement (immunopotentation), by administering the VERY same the boswellic acids composition, is **highly *unpredictable***. Therefore, the skilled artisan would view that the treatment of all autoimmune diseases herein, including **17** diseases listed in claim 151 herein by administering the same composition herein, is highly *unpredictable*.

In regard to these *Wands* factors, (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary:

In the instant case, **no** working examples are presented in the specification as filed showing how to treat a single autoimmune disease, i.e., no testing results provided.

Thus, the specification fails to provide clear and convincing evidence in sufficient support of the broad treatment of any autoimmune diseases encompassed by the instant claims. As a result, necessitating one of skill to perform an exhaustive search and undue experimentation for the embodiments of treating any autoimmune diseases recited in the instant claims suitable to practice the claimed invention.

Genentech, 108 F.3d at 1366, states that "a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "[p]atent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

Therefore, in view of the *Wands* factors, and *In re Fisher* (CCPA 1970) discussed above, to practice the claimed invention herein, a person of skill in the art would have to engage in *undue experimentation*, with no assurance of success.

Response to Argument

Applicant's arguments filed February 18, 2005 with respect to this rejection made under 35 U.S.C. 112, first paragraph, for lack of full scope of enablement have been fully considered but are not deemed persuasive as further discussed below.

Applicant asserts that

> "Lymphoproliferative disorders consists of conditions characterized by immune suppression (e.g., excess of T-suppressor cells as in AIDS) and immune over-stimulation (e.g., excess of T-helper cells as in the auto-immune an inflammatory disorders). The claimed method of treating autoimmune diseases comprising administering a composition of boswellic acids is an unexpected departure from conventional thinking about immune system disorders, yet based on published

> phenomenon of different directions in growth and proliferation of various lymphoid cells in different clinical conditions. Therefore the inventive concept is not a "hunting license" as disparagingly stated by the examiner, but a strikingly novel interpretation of solid experimental data."

Contrary to Applicant's assertion, the instant claims are directed to a method for the treatment of an autoimmune disease, **not** directed to lymphoproliferative disorders. Moreover, according to the specification herein, "an autoimmune disease" includes:

> "The autoimmune diseases that can be treated with the methods of using boswellic acids of the present invention include, for example, psoriasis, samoidosis, systemic lupus eoematosis. Graves' disease, Hashimoto's thyroiditis, silent thyroidies, Crohn's disease, Goodpasture syndrome, insulin-dependent diabetes mellitus, insulin-resistant diabetes mellitus, myastinenia gravis, Addison's disease, idiopathyric hypoparathyroidism, idiopathic thrombocytoytopenic purpura, autoimmune hemolytic anemia, rheumatoid arthritis, and scleroderma." (see page 5 line 22-28 of the specification).

Thus, none of above autoimmune diseases are lymphoproliferative disorders.

Therefore, Applicant's argument regarding lymphoproliferative disorders is not found persuasive.

Further, these **17** specific disease are known to be involved various, many possible, different, separate and independent, even unknown pathology, etiologies, or symptoms. Therefore, the skilled artisan would view that the treatment of all **17** autoimmune diseases herein, by administering the VERY same composition herein, is highly *unpredictable*. Furthermore, the skilled artisan would view that, treating any

autoimmune diseases, encompassing both suppression (immunosuppression) and enhancement (immunopotentation), by administering same the boswellic acids composition, is **highly *unpredictable***.

In the instant case, **no** working examples are presented in the specification as filed showing how to treat a single autoimmune disease, i.e., no testing results provided.

Applicant argues that "according to current U.S. patent practice, they are not required to provide any experimental data and certainly need not provide any more than already in the specification as filed". However, the standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of Mineral Separation v. Hyde, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Accordingly, even though the statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. In re Wands, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988). See also United States v. Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988) ("The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation."). See MPEP 2164.

Moreover, lack of a working example is a critical and crucial factor to be considered, especially in a case involving an unpredictable and undeveloped art. See MPEP 2164.

Thus, the specification fails to provide clear and convincing evidence in sufficient support of the broad treatment of any autoimmune diseases encompassed by the instant claims. As a result, necessitating one of skill to perform an exhaustive search and undue experimentation for the embodiments of treating any autoimmune diseases recited in the instant claims suitable to practice the claimed invention.

Therefore, in view of the *Wands* factors, discussed in the previous Office Action, to practice the claimed invention herein, a person of skill in the art would have to engage in *undue experimentation*, **with no assurance of success**, for treating any autoimmune diseases, or at least all 17 diseases listed in the specification as examples for autoimmune diseases encompassed herein.

For the above stated reasons, said claims are properly rejected made under 35 U.S.C. 112, first paragraph, for lack of full scope of enablement.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 148-151, 175 and 177-191 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Koji et al. (JP 0428809, see the English translation) for the same reasons of record in the previous Office Action November 19, 2004.

Note that claim 175 is not limited to any specific amount of acetyl-11-keto-β–boswellic acid in the claimed method herein.

Koji et al. in JP 0428809 discloses that specific boswellic acids such as β–boswellic acid, acetyl-β–boswellic acid, 11-keto-β–boswellic acid, and acetyl-11-keto-β–boswellic acid (see formula I of the structures at page 2 of the English translation) are useful in pharmaceutical compositions and in the method for treatment of autoimmune diseases including systemic erythematosis and articular rheumatism in humans since β–boswellic acids exhibit a good and complemental activity-inhibiting particular autoimmune diseases such as chronic rheumatoid arthritis and psoriasis (see page 3-4). Moreover, Koji et al. also discloses the methods or processes how obtain and separate each instant boswellic acid from boswellic acids mixture in the plants. Furhter, the structural formula disclosed in JP 0428809 clearly encompasses all four instant boswellic acids. JP 0428809 discloses the composition comprising β–boswellic acid, acetyl-β–boswellic acid, 11-keto-β–boswellic acid, or acetyl-11-keto-β–boswellic acid acetyl-11-keto-β–boswellic acid in their effective amounts. See Example 1-6, and the testing data of the Examples therein as working examples.

JP 0428809 does not expressly disclose the instant particular percentage or range of each of four boswellic acids employed in pharmaceutical compositions for

methods for treatment of particular autoimmune diseases recited in claims 148-151 and 177-191.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine particular percentage or range of each of four boswellic acids employed in pharmaceutical compositions for methods for treatment of particular autoimmune diseases wherein at least 5% w/w of β–boswellic acid, at least 5% w/w of acetyl-β–boswellic acid, at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid or other instant particular amounts of boswellic acids.

One having ordinary skill in the art at the time the invention was made would have been motivated to determine particular percentage or range of each of four boswellic acids employed in pharmaceutical compositions for methods for treatment of particular autoimmune diseases wherein at least 5% w/w of β–boswellic acid, at least 5% w/w of acetyl-β–boswellic acid, at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid or other instant particular amounts of boswellic acids, since the testing results and working examples of the instant boswellic acids useful for treating particular autoimmune diseases are known according to JP 0428809.

Therefore, the determination and optimization of effective amounts of known active agents to be administered based on the known parameters, testing results and working examples provided by JP 0428809, are considered well in the competence

level of an ordinary skilled artisan in pharmaceutical science, involving merely routine skill in the art.

It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Claims 148-151, 175 and 177-191 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Taneja et al. (EP 0755940) for the same reasons of record in the previous Office Action November 19, 2004.

Taneja et al. discloses that boswellic acids herein such as β–boswellic acid, acetyl-β–boswellic acid, 11-keto-β–boswellic acid, and acetyl-11-keto-β–boswellic acid (Formula I-IV therein at page 3) are useful in pharmaceutical compositions and in the method for treatment of inflammatory diseases including arthritis in humans since these boswellic acids exhibit anti-inflammatory action. See page 2 lines 49-50. Taneja et al. also discloses that the pharmaceutical composition therein comprising these β–boswellic acids in specifically effective amounts, e.g., 35-55% w/w of β–boswellic acid(which reads on at least 5% w/w), 25-45% w/w of acetyl-β–boswellic acid (which reads on at least 5% w/w), 4-14% w/w of 11-keto-β–boswellic acid, and 3-13% w/w of acetyl-11-keto-β–boswellic acid (see page 5 lines 15-26).

Taneja et al. does not expressly disclose the effective amounts of 11-keto-β–boswellic acid and acetyl-11-keto-β–boswellic acid employed in pharmaceutical compositions for methods for treatment of autoimmune diseases in which at least 15%

w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to determine the effective amounts of 11-keto-β–boswellic acid and acetyl-11-keto-β–boswellic acid employed in pharmaceutical compositions for methods for treatment of autoimmune diseases in which at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid.

One having ordinary skill in the art at the time the invention was made would have been motivated to determine the effective amounts of 11-keto-β–boswellic acid and acetyl-11-keto-β–boswellic acid employed in pharmaceutical compositions for methods for treatment of autoimmune diseases in which at least 15% w/w of 11-keto-β–boswellic acid and at least 14% w/w of acetyl-11-keto-β–boswellic acid, since the determination and optimization of effective amounts of known active agents to be administered based on the known effective amounts according to Taneja et al, are considered well in the competence level of an ordinary skilled artisan in pharmaceutical science, involving merely routine skill in the art.

It has been held that it is within the skill in the art to select optimal parameters, such as amounts of ingredients, in a composition in order to achieve a beneficial effect. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Moreover, one of ordinary skill in the art would recognize that autoimmune diseases broadly encompass inflammatory diseases. Hence, the teachings of Taneja et al. have clearly provided the motivation for the instant invention.

Applicant's remarks filed February 18, 2005 with respect to the made under 35 U.S.C. 103(a) as being unpatentable over of record in the previous Office Action dated November 19, 2004 have been fully considered but are not deemed persuasive as to the nonobviousness of the claimed invention over the prior art. These remarks are believed to be adequately addressed by the obvious rejection presented above.

Additionally, the specification provides **no** clear and convincing evidence of nonobviousness or unexpected results, i.e., testing results or data demonstrating that the instant boswellic acids in their effective amounts to be administered to a host, i.e., an animal or a human, are useful in treating any autoimmune disease in an animal or a human. Further, it is noted that the specification provides no side-by-side comparison with the closest prior art in support of nonobviousness for the instant claimed invention over the prior art.

For the above stated reasons, said claims are properly rejected under 35 U.S.C. 103(a).

In view of the rejections to the pending claims set forth above, no claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jiang, whose telephone number is (571)272-0627. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, Ph.D., can be reached on (571)272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Anna Jiang, Ph.D.
Primary Examiner
Art Unit 1617
June 7, 2005